

Remarks/Arguments

Claims 2-10 and 12-27 are now pending.

A Request of Continued Examination is enclosed under separate cover. Claims 1 and 11 have been cancelled. Independent claims 12 and 21 have been amended to specify that a data connection status is made at minimum fixed time intervals in accordance with a service check timer. Dependent claims 4 - 9 and 15, 16, 18 and 23 have been amended to accord with the amendments to their respective independent claims, to provide proper proper antecedent bases, and to cover further disclosed embodiments. Claims 26 and 27 have been added to cover subject matter previously covered in dependent claims 23 and 6.

35 U.S.C. §102(e) rejections

The Examiner rejected claims 2-6, 9, 10, 12-16, 18 and 21-25 as being anticipated by U.S. Patent No. 6,501,947 to Hunzinger.

Applicant submits that Hunzinger does not teach every aspect, either explicitly or impliedly, of the invention as defined in amended claims 12 and 21, and their respective dependent claims. In particular, Hunzinger does not teach or suggest any procedure for determining if a connection has been lost, or for reestablishing a connection if the connection is lost subsequent to initial connection, nor does Hunzinger teach or suggest that such determinations be carried out at minimum fixed intervals.

Hunzinger discloses a CDMA standard process used by a mobile station to connect to a base station when an initial attempt to establish a connection has failed (col. 4, lines 1-10). This CDMA standard process (200) is illustrated in Fig. 2 and described at col. 4, line 8 to col. 5, line 21. When an initial connection attempt fails, the process 200 is initiated at step 205. Subsequent to this initiation, a reconnect timer is initialized (210) and, upon expiry of the

reconnect timer, an attempt to reconnect is made at step 215. This attempt to reconnect includes a conditional loop at step 220 where, when an attempt to connect fails, a wait timer value is quadrupled up to a maximum value (steps 225 and 230) and a reconnection attempt is subsequently made (240). In Hunzinger, a determination of a data connection status is only made up to the point where the connection is established. Hunzinger states: "If the connection with the base station 104 is successful, the mobile station 106 proceeds along the YES branch and the connection process [200] terminates in end state 250" (col. 4, lines 21-23); however, Hunzinger is silent as to any determination of the data connection status after the data connection is established.

By contrast, the present invention provides an automatic disconnect recovery process that permits an always-on device to reestablish a data connection if the connection is lost. If a data connection is not established, a back off timer is initialized, and reconnection attempted (see e.g. p.10, line 6 - p.12, line 11; Fig. 3), in a manner similar to that described in Hunzinger. However, if a data connection is established, the present invention checks periodically to determine if the connection is still established or has been lost. A connection manager 156 checks the established data connection at minimum fixed intervals, as determined by a service check timer 154 (p. 7, lines 14 - 27; p. 12, lines 12 - 21; Fig. 4). If the connection is determined to have been lost, the present invention attempts to re-establish the connection as described in relation to Fig. 3 (p. 9, lines 17 - 25), and may, if necessary, initialize the back off timer (p. 10, lines 6 - 12).

Independent claims 12 and 21 have been amended to specify that the service check timer determines the minimum fixed time intervals at which an established data connection is checked.

Claim 12 has been amended to recite a method of automatically maintaining a data connection on a wireless data network including, *inter alia*, method steps of determining, at minimum

fixed time intervals determined by a service check timer, the status of a previously established
data connection; and automatically transmitting a connection request if the previously
established data connection is determined to be lost.

Claim 21 has been amended to recite a mobile device for establishing and maintaining a data connection to a wireless data network. The mobile device comprises a back off timer for timing a back off period between retries to establish a data connection; and a service check timer for setting a minimum fixed interval after which an established data connection is checked to determine if it has been lost. A connection manager determines if a data connection between the mobile device and the wireless network exists or has been lost; for resetting the service check timer upon its expiry if the data connection exists; for transmitting connection requests to the wireless network upon initialization, upon expiry of the back off timer, and upon expiry of the service check timer if the data connection has been lost; and for resetting the back off timer in response to receipt of a connection rejection from the wireless network.

Therefore, Applicant submits that Hunzinger fails to teach or suggest all the limitations of independent claims 12 and 21, and their respective dependent claims 2-6, 9, 10, 13-16, 18 and 22-25. Withdrawal of the rejections under 35 U.S.C. §102(e) is respectfully requested.

35 U.S.C. §103(a) rejections

The Examiner rejected claims 7 and 8 as being obvious in view of Hunzinger and of U.S. Patent No. 4, 827,507 to Marry; claim 17 as being obvious in view of Hunzinger; claim 19 as being obvious in view of Hunzinger and an Official Notice; and claim 20 as being obvious in view of Hunzinger and of U.S. Publication No. 2002/0082032A1 to Hunzinger (Hunzinger II).

Each of claims 7, 8, 17 and 20 is dependent, directly or indirectly, from claim 12, and includes all the limitations of claim 12. Applicant reiterates the comments made above in respect of Hunzinger, and submits that, since Hunzinger does not teach all the claimed limitations of

independent claim 12, it cannot teach or reasonably suggest all the limitations of a narrower claim dependent from claim 12. Applicant further submits that none of Marry, the Official Notice or Hunzinger II teach or suggest a service check timer that determines the minimum fixed time intervals at which an established data connection is checked, as claimed herein.

Therefore, Applicant submits that there is no combination of the cited references that can teach or suggest all the claimed limitations in claims 7, 8, 17 or 20, and no showing of *prima facie* obviousness can be made. Withdrawal of the rejections under U.S.C. §103(a) is respectfully requested.

It is submitted that this application is now in condition for allowance, and action to that end is respectfully requested.

No fee is believed required. However, if a fee is due, the Commissioner is hereby authorized to charge any additional fees, and credit any overpayments to Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP.

Respectfully submitted,
Wen ZHAO, et al.

/Anne Kinsman/
By: _____
Anne Kinsman
Reg. No. 45,291

Borden Ladner Gervais LLP
World Exchange Plaza
100 Queen Street, Suite 1100
Ottawa, ON K1P 1J9
CANADA
Tel: (613) 787-3519
Fax: (613) 787-3558
E-mail: akinsman@blgcanada.com
ALK/plg